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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,568	08/31/2000	Mary K. Danks	SJ-0011	7464

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EXAMINER	
PROUTY, REBECCA E	

ART UNIT	PAPER NUMBER
1652	19

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/622,568	Danks et al.
Examiner	**Art Unit**
Rebecca Prouty	1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Aug 7, 2002*.

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *23, 25, and 27-29* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *23, 25, and 27-29* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *18*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Claims 1-22, 24, 26, 30, and 31 have been canceled. Claims 23, 25, and 27-29 are still at issue and are present for examination.

Applicants' arguments filed on 8-1-02, paper No. 17, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 25, 27 and 28 rejected under 35 U.S.C. 102(b) as being anticipated by Senter et al (Reference AG of Applicant's PTO-1449.

Senter et al. teach methods of increasing the activation of the prodrugs Paclitaxel and camptothecin (CPT-11) to active drugs in human and mouse tumor cells by the administration of rat serum carboxylesterase following administration of the prodrug.

While Claim 23 recites the use of a "recombinantly produced carboxylesterase" and the esterase used by Senter is isolated from rat serum by standard purification techniques, the method of

preparation of a protein does not affect the structure of the product produced and thus the protein of Senter et al meets all limitations of the claimed method.

Applicants argue that the protein of Senter et al. differs from the claimed "recombinantly produced carboxylesterase" because the carboxylesterase produced by applicants included an 18 amino acid leader sequence not present in the naturally produced protein. This is not persuasive for several reasons. First it should be noted that there is in fact no evidence in the specification that applicants recombinantly produced **protein** includes the leader sequence. Pages 25-26 of the specification describe the features of the **DNA** which encodes the protein. Clearly the DNA encoding a secreted protein includes the sequence encoding the signal peptide as well as the sequence encoding the mature protein. The signal peptide is cleaved off following membrane translocation. There is no evidence in the specification that the recombinant protein produced actually retains this peptide. Furthermore, even if this peptide is retained on applicants recombinant carboxylesterase as produced on pages 25-26 of the specification, the claims are **not** limited to the use of the recombinant carboxylesterase produced by applicants but include use of **any** recombinant carboxylesterase.

As such the claims would include the use of the carboxylesterase of Senter et al.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 23, 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senter et al (Reference AG of Applicant's PTO-1449) in view of Alexson et al. (Reference AA of Applicant's PTO-1449).

Senter et al. is discussed above. Senter do not use a recombinantly produced enzyme.

Alexson et al. teach the recombinant production of the rat serum carboxylesterase used by Senter et al.

The many advantages of recombinant production of useful proteins are well known within the art as are recombinant methods of obtaining the necessary genes. These advantages include the ability to produce much larger quantities of the protein, being able to produce the protein in more easily handled organisms, reducing the number of steps necessary for the purification of a protein and producing the protein in a purer form by using an organism that does not include naturally occurring contaminants of the protein. As such it would have been obvious to one of ordinary skill in the art to use the recombinant produced rat serum carboxylesterase in the method of Senter et al. as the recombinant enzyme could be obtained in much larger quantities.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Senter et al. taken alone or Senter et al. in combination with Alexson et al.

Senter et al. and Alexson et al. are discussed above. They do not teach the administration of the rat serum carboxylesterase prior to the administration of the prodrug. However, as the Senter et al. suggest using the rat serum carboxylesterase for cancer treatment and specifically state that "It may be possible to use rat serum carboxylesterase for prodrug activation *in vivo* by targeting the enzyme to tumors with an appropriate monoclonal

antibody **and then** administering a prodrug such as PC or CPT-11" (emphasis added) they explicitly suggest the administration of the rat serum carboxylesterase prior to the administration of the prodrug. Furthermore, one of skill in the art would have been motivated to administer the carboxylesterase first in order for it to be targeted to the tumor prior to prodrug administration as this would minimize side effects due to activation of the prodrug in non-tumor cells.

Applicants rely on the argument discussed above with respect to the 102 rejection for the traversal of this 103 as well. As such for the same reasons discussed above the 103 rejection is maintained.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca Prouty, Ph.D. whose telephone number is (703) 308-4000. The examiner can normally be reached on Monday-Friday from 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy, can be reached at (703) 308-3804. The fax phone number for this Group is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Rebecca Prouty
Primary Examiner
Art Unit 1652